Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
IP-Enabled Services	)	WC Docket No. 04-36
	)	
E911 Requirements for IP-Enabled Service Providers	)	WC Docket No. 05-196
	)	

To: The Commission

COMMENTS OF CTIA – THE WIRELESS ASSOCIATION™

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COMMENTS OF CTIA – THE WIRELESS ASSOCIATION™

CTIA – The Wireless Association™ ("CTIA"),[1] submits the following comments on the Commission's *Notice of Proposed Rulemakin*g in the above-captioned proceedings.[2] CTIA supports the Commission's goal of ensuring that interconnected Voice over Internet Protocol ("VoIP") services provide subscribers with advanced E911 capabilities. In these comments, CTIA urges the Commission to clearly place the ultimate responsibility for VoIP E911 automatic location obligations on VoIP service providers. Further, the Commission should draw on the wireless E911 experience and avoid favoring a particular technology solution over any other. Instead, the Commission should adopt rules that freely allow industry and the market to develop the technological solutions to automatically identify the geographic location of users of interconnected VoIP services.

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[1] CTIA is the international organization of the wireless communications industry for both wireless carriers and manufacturers. Membership in the organization covers Commercial Mobile Radio Services ("CMRS") providers and manufacturers, including cellular, broadband PCS, ESMR, as well as providers and manufacturers of wireless data services and products.

[2] *IP-Enabled Services, E911 Requirements for IP-Enabled Service Providers*, WC Docket Nos. 04-36 and 05-196, First Report and Order and Notice of Proposed Rulemaking, FCC 05-116 (rel. June 3, 2005) ("*First Report and Order*" or "*NPRM*," as applicable).

INTRODUCTION AND SUMMARY

In the *First Report and Order* in this proceeding, the Commission took important steps towards ensuring that consumers of interconnected VoIP services have access to 911/E911 service and the ability to reach emergency services directly and efficiently. In particular, the Commission addressed immediate, near-term public interest concerns by requiring providers of interconnected VoIP service to provide E911 capabilities to their customers via the provision of call-back numbers (ANI) and the caller's "Registered Location."[3] In the *NPRM*, the Commission addresses the far more difficult technology and policy questions regarding what it can do "to facilitate the development of techniques for automatically identifying the geographic location of users of [interconnected] VoIP service[.]"[4]

CTIA has consistently made clear that extending the Commission's 911/E911 policy objectives to IP-enabled services is an important and legitimate goal.[5] Just as the Commission has concluded that wireless consumers have come to expect 911/E911 calling capabilities for their wireless services, the Commission has justifiably concluded that consumers have that same expectation with respect to interconnected VoIP services.[6] CTIA has cautioned, however, that the Commission "should define what objectives it wants IP-enabled service providers to fulfill,

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[3] *First Report and Order* ¶¶ 36-46; 47 C.F.R. §§ 9.5(b)-(d). "Registered Location" is defined as "[t]he most recent information obtained by an interconnected VoIP service provider that identifies the physical location of an end user." 47 C.F.R. § 9.3.

[4] *NPRM* ¶ 57.

[5] CTIA Comments in WC Docket No. 04-36, filed May 28, 2004, at 11 ("CTIA IPES Comments"); CTIA Reply Comments in WC Docket No. 04-36, filed July 14, 2004, at 9.

[6] In the *First Report and Order*, the Commission found that "consumers expect that VoIP services that are interconnected with the PSTN will function in some ways like a 'regular telephone' service" and that such expectations are reasonable "regarding the ability to provide access to emergency services by dialing 911 …." *First Report and Order* ¶ 23.

but then *allow the industry flexibility in meeting those objectives*."[7] Based on the lessons learned in the wireless E911 experience, CTIA believes that a regimented approach wherein the Commission dictates the manner in which these goals are achieved should be considered only if "the market is not being developed within a timeframe that is deemed reasonable in light of realistic technical and business considerations."[8] These important policy considerations favor (1) imposing any such automatic location information requirements on the entity providing the VoIP services to its own end user customers, and (2) allowing the industry maximum flexibility to meet those requirements. In addition, CTIA supports imposing reporting obligations on interconnected VoIP providers and suggests that the Commission find ways to obtain up-to-date information on PSAP capabilities. Further, the Commission, States and industry should work cooperatively to educate consumers regarding VoIP E911 capabilities and deployment.

DISCUSSION

I. INTERCONNECTED VoIP SERVICE PROVIDERS SHOULD BE RESPONSIBLE FOR VoIP E911 OBLIGATIONS

The *NPRM* seeks comment on how to facilitate the development of techniques for obtaining location information automatically for users of portable VoIP services.[9] The Commission also seeks comment on what role the Commission should play in facilitating various technology solutions.[10] The Commission specifically asks whether it should "require all

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[7] CTIA IPES Comments at 11 (emphasis added); *see IP-Enabled Services*, Notice of Proposed Rulemaking, 19 FCC Rcd. 4863, 4898-99 ¶ 53 (2004) (seeking comment on 911/E911 issues).

[8] CTIA IPES Comments at 12.

[9] *NPRM* ¶ 57.

[10] *Id.* ¶ 58.

terminal adapters or other equipment used in the provision of interconnected VoIP service sold as of June 1, 2006 to be capable of providing location information automatically, whether embedded in other equipment or sold to customers as a separate device[.]"[11] As discussed below, VoIP E911 regulatory obligations should ultimately lie with the VoIP service provider.

As it has done with respect to existing E911 obligations for interconnected VoIP and, previously, with CMRS E911 obligations, the Commission should impose VoIP-related location obligations on the VoIP service provider. Fundamentally, it is a service provider's offering of interconnected VoIP service to customers, irrespective of technology platform, that triggers the public interest concerns regarding E911 capabilities. As the Commission stated in the *NPRM*, "while a provider of VoIP service enjoys the opportunity to introduce new and exciting public interest benefits to the communications marketplace, and to profit from those offerings, that opportunity brings with it the responsibility to ensure that public safety is protected."[12] Indeed, a service provider-based approach sends appropriate economic signals because the interconnected VoIP provider – the entity receiving the revenues from the service – should internalize the cost of 911/E911 compliance into its business model.

CTIA notes that under this approach, an underlying network operator's responsibility to automatically provide location information for the VoIP call would be implicated only when the network operator is also the provider of the interconnected VoIP service. Thus, for example, where a CMRS provider also offers the interconnected VoIP service, that carrier would be subject to the VoIP E911 obligations. Of course, the rules should provide sufficient flexibility to

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[11] *Id.* ¶ 57.

[12] *Id.* ¶ 56.

allow a stand-alone VoIP provider to structure an E911 solution that uses location information derived by the network operator, as discussed below in Section II.

The nature of the automatic location technology challenge in the VoIP environment further underscores that any E911 obligation should rest with the provider of such services regardless of the type of network (*e.g.*, wireline, wireless) over which the service is offered. The Commission squarely identifies the key issue at the heart of the *NPRM*: "[B]ecause portable interconnected VoIP services may be offered independent of geography, currently there is no way for portable VoIP providers reliably and automatically to provide location information to PSAPs for these services without the customer's active cooperation."[13] It is precisely the *nomadic capability* of the interconnected VoIP provider's service offering, *not* the wireless or wireline transport used in its delivery, that creates the technological challenges in automatically generating location information for the 911 caller and for PSAP use of that data.[14] For example, a traveler using a VoIP service over a laptop plugged into the wall of the hotel room via an Ethernet connection uses a "fixed" broadband connection, notwithstanding the nomadic nature use of the device; if the hotel instead deploys a Wi-Fi network for its guests' broadband connections, the basic location capability issue caused by the nomadic nature of the device is the same. A VoIP service obtained via a home desktop PC through either a landline jack or a wireless connection faces the same challenge.

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[13] *Id.* ¶ 57.

[14] The Commission's inquiry whether "the use of wireless broadband connections such as Wi-Fi or WiMax [should] impact the applicability" of VoIP E911 obligations must be considered in this context. *See id.* ¶ 59.

As all stakeholders have learned from the CMRS E911 experience, to deliver on the lifesaving promise of new technologies, it is critical that Public Safety also evolve and upgrade its capabilities. As Dale Hatfield documented in his 2002 E911 Report to the Commission, emergency networks "usually are based on a 25-year old architecture and implemented with legacy components that place significant limitations on the functions that can be performed over the network."[15] Even today, the extent of PSAP readiness for wireless E911 Phase II service is more limited than originally hoped. Accordingly, the Commission should consider PSAPs' capabilities to handle E911 call data from nomadic devices in the interconnected VoIP context. In particular, the Commission should take into account PSAPs' capabilities, and any necessary PSAP facility upgrades (including upgrades of legacy systems allowing for direct integration of IP-based services into emergency networks), as it considers any particular deadlines or capability requirements. Otherwise, the Commission risks raising unrealistic consumer expectations and, particularly if any deadlines are not tied to PSAP readiness, possibly precluding the development of new technological solutions.

II. THE WIRELESS EXPERIENCE INDICATES THAT THE COMMISSION SHOULD ALLOW VoIP PROVIDERS MAXIMUM FLEXIBILITY IN ACHIEVING 911/E911 POLICY OBJECTIVES.

For more than ten years, the wireless industry has been immersed in the technology and implementation issues surrounding wireless E911.[16] In expanding E911 services beyond the wireline PSTN, the Commission broke new ground, and only over time did the Commission,

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[15] *See A Report on Technical and Operational issues Impacting the Provision of Wireless Enhanced 911 Services*, Prepared for the Federal Communications Commission by Dale N. Hatfield, filed Oct. 15, 2002 in WT Docket No. 02-46.

[16] *See Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Notice of Proposed Rulemaking, 9 FCC Rcd 6170 (1994).

industry and Public Safety appreciate the steep learning curve involved in real-world implementation of wireless E911 capability. The Commission now faces a similar challenge with respect to location capabilities for nomadic VoIP service offerings.[17] The *NPRM* recognizes that "currently there is no way" for nomadic VoIP providers automatically to provide location information absent the customer's active cooperation but then identifies "[a] number of possible methods."[18] The *NPRM* asks what role the Commission should play to "facilitat[e] the adoption of one or more of these possible solutions, or facilitat[e] some other solution, to automatically identify a VoIP service customer's location[.]"[19] The wireless E911 experience clearly demonstrates that consumers' public safety interests are not best served when the Commission, however well-meaning, determines the technical solutions for achieving its 911/E911 objectives. The Commission should provide interconnected VoIP service providers with the flexibility to identify the best solution to meet the VoIP E911 goals.

Lessons learned during implementation of wireless E911 underscore that any new VoIP E911 requirements should not preclude or discourage the development and use of innovative E911 solutions. The initial wireless Phase II E911 rules, for example, effectively (albeit unintentionally) precluded carriers' use of promising handset-based location solutions by

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[17] The NENA/VON Coalition petition for reconsideration in response to the *First Report and Order* demonstrates the complexity of the technical issues involved in VoIP 911 capabilities and the amount of work that remains to be done. *See* Joint Petition for Clarification of the National Emergency Number Association and the Voice on the Net (VON) Coalition, WC Docket Nos. 04-36 and 05-196, filed July 29, 2005.

[18] *NPRM* ¶ 57.

[19] *Id.*

imposing a "flash-cut" implementation requirement.[20] The Commission appropriately amended its rules to facilitate handset-based solutions, but until it did so the rules had the unintentional effect of skewing technological and marketplace dynamics among carriers, manufacturers and solution vendors, and creating regulatory uncertainty that, in retrospect, might very well have affected Phase II deployment.[21] As another example, the Commission also imposed a very specific ANI transmission requirement for non-service-initialized handsets, only to have industry subsequently develop a more appropriate solution.[22]

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[20] *See Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Third Report and Order, 14 FCC Rcd 17388, ¶¶ 6-7 (1999) ("*E911 Third Report and Order*"); *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Memorandum Opinion and Order, 12 FCC Rcd 22665, ¶¶ 123-24 (1997). In the *E911 Third Report and Order*, the Commission stated that "in adopting the E911 rules, the Commission did not reach an affirmative decision to disqualify handset-based solutions; instead, the effect of those rules on handset-based ALI technologies was, in fact, an unintended consequence, as the Commission subsequently recognized and sought to remedy" in subsequent decisions. *E911 Third Report and Order* ¶ 34.

[21] In the wireless context, projections of technology availability and feasibility were often premised in part on necessarily preliminary assertions from vendors that later proved to be overly optimistic. *See Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 18676, ¶ 68, n. 131 (1996) (citing vendor/solution provider comments as basis for initial 5-year timetable for Phase II deployment); *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems Request for Waiver by Sprint Spectrum L.P. d/b/a Sprint PCS*, Order, 16 FCC Rcd. 18330, ¶ 16 (2001) (finding Sprint's "deployment schedules are justified based on delays in the necessary technology"); *Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Phase II Compliance Deadlines for Non-Nationwide CMRS Carriers*, Order to Stay, 17 FCC Rcd 14841, ¶¶ 11-12 (2002) (describing delays facing non-nationwide carriers).

[22] *See Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems - Non-Initialized Phones*, Report and Order, 17 FCC Rcd 8481, *stayed* Order, 17 FCC Rcd 1901 (2002), *recon. granted* Memorandum Opinion and Order, 18 FCC Rcd 23383 (2003).

The Commission should draw on its wireless experience and create a new and better paradigm by allowing VoIP service providers the flexibility to determine and implement the best technical means for enabling a VoIP subscriber to communicate with emergency service providers. In this regard, the Commission should not seek to address VoIP automatic location technical challenges by imposing a requirement on the equipment used to provide interconnected VoIP.[23] The record indicates that a variety of technologies are already under consideration.[24] Nothing should preclude a provider of interconnected VoIP service from pursuing a solution based on the location capabilities embedded in its customers' devices; nor should the VoIP provider be precluded from entering into contractual arrangements with underlying broadband network operators, including potentially wireless providers, to facilitate such compliance.[25]

Notably, the Commission has already adopted a similar flexible approach with respect to interconnected VoIP providers' E911 call routing and data transmission obligations, providing that VoIP service providers "may satisfy this requirement by interconnecting indirectly through a third party such as a competitive LEC, interconnecting directly with the Wireline E911 Network, or through any other solution that allows a provider to offer E911 service as described above."[26] The Commission should likewise afford industry and public safety stakeholders similar

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[23] *See NPRM* ¶ 57.

[24] *See, e.g.*, Petition of T-Mobile for Clarification, WC Docket Nos. 04-36 and 05-196, filed July 29, 2005, at 4 (seeking clarification regarding network-derived location information).

[25] A service provider may determine, for example, that a particular solution for network-derived location information is more optimal than a potential exchange of customers' legacy equipment. Conversely, another service provider's business model may render an equipment-based approach more viable. Given the potential advances in VoIP-based services, there are a myriad of potential reasons why a VoIP service provider might find one particular solution more effective or efficient than another.

flexibility to develop and deploy the optimal location information solutions for VoIP services, without dictating the means by which industry meets that objective.

III. THE COMMISSION SHOULD REQUIRE REPORTING ON THE STATUS OF E911 VoIP DEPLOYMENT AND ENCOURAGE PARTIES TO PURSUE CONSUMER EDUCATION EFFORTS

The Commission seeks comment on whether to "impose reporting obligations on VoIP service providers other than the compliance letter" imposed in the *First Report and Order* and, in particular, "what progress they are making in developing ways to locate automatically a user who dials 911[.]"[27] In the early stages of VoIP E911 deployment, VoIP service provider progress reports akin to those imposed on wireless carriers may serve a legitimate monitoring function, both for the Commission and for the public safety community. Moreover, given the importance the Commission has placed on E911 deployment, the Commission should consider ways to obtain up-to-date information regarding PSAP capabilities, in terms of the upgrades needed to support the type and volume of IP-based information PSAPs can carry on their networks, and the availability of funding to support these upgrades, including necessary migration to an IP-based system. The Commission should ensure that such reports also secure information concerning the capabilities and timely facilities deployment by VoIP providers' and PSAPs' various vendors.[28]

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[26] *See First Report and Order* ¶ 38.

[27] *NPRM* ¶ 60.

[28] Tier I and Tier II CMRS providers, for example, already provide significant vendor-related information via their quarterly reports when deployment issues arise. *See* Public Notice, *Wireless Telecommunications Bureau Standardizes Carrier Reporting on Wireless E911 Implementation*, CC Docket No. 94-102, DA 03-1902 (rel. June 6, 2003).

While reporting obligations can provide an important public information function, there is also an important consumer education and outreach role for the government, in addition to the educational and information efforts undertaken by industry. Accordingly, the States, the Commission and service providers should engage in consumer-focused campaigns to inform the public of the benefits – and any limitations – of VoIP providers' services and to inform subscribers about their local PSAPs' capabilities to receive and process enhanced location information associated with interconnected VoIP service.[29] For example, to the extent that some customers require a change of existing equipment or other software modifications, the States and the Commission are in a strong position to encourage such action and to help consumers understand how to do so. In all cases, such government efforts should be undertaken with the input and cooperation of all stakeholders, including industry and Public Safety.

CONCLUSION

For the foregoing reasons, CTIA submits that interconnected VoIP service providers should bear the ultimate responsibility for complying with E911 automatic location obligations; however, CTIA believes the wireless E911 experience demonstrates that the Commission should allow the technical subject matter experts within the industries involved in developing and providing the service to develop and deploy the specific technical solutions. CTIA agrees that reporting obligations should be imposed on VoIP providers, and the Commission, States and

[29] *See NPRM* ¶ 61.

industry should work cooperatively to educate consumers regarding VoIP E911 capabilities and deployment.

Respectfully submitted,

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